

**Amendments to the Claims:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

**Listing of Claims:**

1. (Currently amended) A method for attaching DNA in plasmid form to the surface of calcium phosphate ceramic or powder, comprising a step
  - a) ~~consisting of a hydration of~~ hydrating the calcium phosphate powder or calcium phosphate ceramic in a phosphate buffer solution not saturated with calcium and phosphate, ~~and a step~~
  - b) ~~consisting of an immersion of~~ immersing the products obtained in step a) in a phosphate buffer solution not saturated with calcium and phosphate containing a single- or double-stranded DNA for periods varying from a few minutes to several hours, and
  - c) producing calcium phosphate particles containing the DNA ~~molecules~~ attached to ~~its~~ an outer surface of the particles.
2. (Previously presented) The method as claimed in claim 1, wherein the solution in step a) and b) comprises a 0.12 M phosphate buffer (pH 6.8).
3. (Currently amended) The method as claimed in claim 1, wherein the immersion is carried out for at least 1, 5, 10 or 30 minutes up to about 12, 24 or 48 hours at a temperature ranging from 15 to 50°C, ~~preferably about 37°C.~~
4. (Previously presented) The method as claimed in claim 1, wherein the calcium phosphate particles are kept immersed in a culture medium of the cell culture media type.
5. (Previously presented) The method as claimed in claim 4, wherein the calcium phosphate particles are immersed for about a few minutes to a few days.
6. (Currently amended) The method as claimed in claim 4, wherein the calcium phosphate

particles are immersed at a temperature ranging from 15 to 50°C, ~~preferably about 37°C.~~

7. (Currently amended)      The method as claimed in claim 1, wherein step b) is carried out by means of a medium simulating ~~the~~ extracellular fluids or a medium of the cell culture media type containing the nucleic acids, said medium being nondenaturing for the DNA and not saturated with calcium and phosphate; this medium causing epitaxial carbonated apatite growth at the surface of said powders and ceramics.
8. (Previously presented)      The method as claimed in claim 1, wherein steps a) and b) are carried out simultaneously or successively.
9. (Currently amended)      The method as claimed in claim 7 ~~to attach DNA~~ wherein steps b) and c) occur under physiological pH conditions ~~to calcium phosphate particles.~~
10. (Previously presented)      A method for transfecting isolated cells, cultured in a monolayer or in three dimensions, comprising bringing the cells to be transfected into contact with the particles obtained by the method as claimed in claim 1 for periods of a few hours to a few weeks.
11. (Previously presented)      A method for transfecting cells contained in a cultured tissue fragment consisting in bringing the cells to be transfected into contact with the particles obtained by the method as claimed in claim 1 for periods of a few hours to a few weeks.
12. (Previously presented)      A method of preparing a medicament for transfecting in vivo cells contained in a tissue or in an organ utilizing the particles obtained by the method as claimed in claim 1.
13. (Withdrawn)      A calcium phosphate ceramic and powder which can be obtained from the

method as claimed in claim 1, wherein epitaxial carbonated apatite growth at its the surface of the calcium phosphate ceramic and powder under nondenaturing conditions is supported.

14. (Withdrawn) The calcium phosphate ceramic and powder as claimed in claim 13, additionally comprising nucleic acids attached to its the surface of the calcium phosphate ceramic and powder.
15. (Withdrawn) The calcium phosphate ceramic and powder as claimed in claim 13 having at least one of the following properties:
- nature of the charged groups at the surface:  $\text{PO}_4^-$ ,  $\text{OH}^-$ ,  $\text{Ca}^{++}$
  - basic surface pH
  - negative electrokinetic potential
  - hydrophobic
  - particle size between 0-200  $\mu\text{m}$ , in particular between 80-125  $\mu\text{m}$  and 0-25  $\mu\text{m}$ .
16. (Withdrawn) The calcium phosphate ceramic and powder as claimed in claim 13, comprising a core composed of another polymeric, ceramic or metallic, preferably magnetic, material.
17. (Withdrawn) A particle formed based on the calcium phosphate powder as claimed in claim 13, contained in a mineral or polymeric matrix, in particular in calcium phosphate or sulfate cements.
18. (Withdrawn) The calcium phosphate powders and ceramics as claimed in claim 13, for the transfection of cells *in vitro*.
19. (Withdrawn) The calcium phosphate ceramic and powder as claimed in claim 13, for the

manufacture of a medicament for the transfection of cells *in vivo*.

20. (Withdrawn) The-calcium phosphate ceramic and powder as in claim 13, for the culture of transfected cells in three dimensions with formation of a cellular or extracellular matrix aggregating the particles.

21. (New) The method as claimed in claim 3, wherein the immersion is carried out at a temperature of about 37°C.

22. (New) The method as claimed in claim 6, wherein the immersion is carried out at a temperature of about 37°C.